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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/925,576

08/09/2001

Carsten Andersen

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NEW YORK, NY 10110

EXAMINER

RAO, MANJUNATH N

ART UNIT

PAPER NUMBER

1652

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/925,576

Applicant(s)

ANDERSEN ET AL.

Examiner

Manjunath N. Rao, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-30, 50 and 57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-30 and 50, 57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: Sequence alignments (11 pages) .

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DETAILED ACTION

Claims 25-30, 50, 57 are currently pending and are present for examination.

Applicants' amendments and arguments filed on 11-21-06, have been fully considered and are deemed to be persuasive to overcome the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. Specifically, Examiner has withdrawn the rejection of claims 25-30, 50 and 57 under 35 USC 112, 1st paragraph for recitation of new matter in view of claim amendments.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 25-30, 50, 57 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a variant amylase enzyme of SEQ ID NO:12 wherein the variant comprises an alteration selected from the group of alterations to amino acid at positions 118, 320 or 458 and wherein the alteration specifically comprises replacing the amino acid at said positions with lysine (K), does not reasonably provide enablement for variant amylase enzyme wherein the variant comprises a polypeptide having at least 90%, 95% or 97% homology with SEQ ID NO: 12, as well as an alteration selected from the group of alterations corresponding to amino acid at position 118, 320 or 458 and wherein the alteration specifically comprises replacing the amino acid at said positions with lysine (K). The specification does not

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enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Factors to be considered in determining whether undue experimentation is required, are summarized in *In re Wands* (858 F.2d 731, 8 USPQ 2d 1400 (Fed. Cir. 1988)) as follows: (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claim(s).

Claims 25-30, 50, 57 are so broad as to encompass any amylase comprising the modifications at the above mentioned three positions and having 90% through 97% identity to SEQ ID NO: 12. The scope of the claims is not commensurate with the enablement provided by the disclosure with regard to the extremely large number of amylases broadly encompassed by the claims. Since the amino acid sequence of a protein determines its structural and functional properties, predictability of which changes can be tolerated in a protein's amino acid sequence and obtain the desired activity requires a knowledge of and guidance with regard to which amino acids in the protein's sequence, if any, are tolerant of modification and which are conserved (i.e. expectedly intolerant to modification), and detailed knowledge of the ways in which the proteins' structure relates to its function. However, in this case the disclosure is limited to the variant amino acid sequence of only SEQ ID NO:12 selected from the group of alterations to amino acid at positions 118, 320 or 458 and wherein the alteration specifically comprises replacing the amino acid at said positions with lysine (K). It would require undue experimentation of the skilled artisan to make and use the claimed polypeptides. The specification is limited to teaching

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the use of SEQ ID NO: 12 with the any one of the above three amino acid modifications as a amylase but provides no guidance with regard to the making of variants and mutants that are 90% to 97% identical to SEQ ID NO 12 or with regard to other uses. In view of the great breadth of the claim, amount of experimentation required to make the claimed polypeptides, the lack of guidance, working examples, and unpredictability of the art in predicting function from a polypeptide primary structure (e.g., see Ngo et al. in *The Protein Folding Problem and Tertiary Structure Prediction*, 1994, Merz et al. (ed.), Birkhauser, Boston, MA, pp. 433 and 492-495), the claimed invention would require undue experimentation. As such, the specification fails to teach one of ordinary skill how to use the full scope of the polypeptides encompassed by this claim.

While enzyme isolation techniques, recombinant and mutagenesis techniques are known, and it is routine in the art to screen for multiple substitutions or multiple modifications as encompassed by the instant claims, the specific amino acid positions within a protein's sequence where amino acid modifications can be made with a reasonable expectation of success in obtaining the desired activity/utility are limited in any protein and the result of such modifications is unpredictable. In addition, one skilled in the art would expect any tolerance to modification for a given protein to diminish with each further and additional modification, e.g. multiple substitutions.

The specification does not support the broad scope of the claims which encompass all modifications and fragments of any amylase with 90% through 97% identity to SEQ ID NO: 12, because the specification does not establish: (A) regions of the protein structure which may be modified without affecting amylase activity; (B) the general tolerance of amylases to modification and extent of such tolerance; (C) a rational and predictable scheme for modifying

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any amino acid residue with an expectation of obtaining the desired biological function; and (D) the specification provides insufficient guidance as to which of the essentially infinite possible choices is likely to be successful.

Thus, applicants have not provided sufficient guidance to enable one of ordinary skill in the art to make and use the claimed invention in a manner reasonably correlated with the scope of the claims broadly including amylases with an enormous number of amino acid modifications to SEQ ID NOS: 12. The scope of the claims must bear a reasonable correlation with the scope of enablement (*In re Fisher*, 166 USPQ 19 24 (CCPA 1970)). Without sufficient guidance, determination of polypeptides having the desired biological characteristics is unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. See *In re Wands* 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988).

In response to the previous Office action, applicant has again traversed the above rejection arguing that the amended claims are directed to variants having a high degree of homology to SEQ ID NO:12 and that the claims are indeed enabled. Applicant alleges that Examiner has not given proper consideration to many facts that lead to the contrary conclusion that claims are enabled. Applicant also alleges that Examiner has not given due consideration to the very high level of skill in the art in relation to the breadth of the claims. Applicant maintains, as of the time of the invention, it was routine in the art to produce variant enzymes which were at least 90% homologous to a reference sequence and that the literature (both scientific and patent) is voluminous in regard to the ability of the artisan to carryout routine processes to produce variant sequences and that these skills encompass well known molecular biological techniques for creating diversity from a

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known sequence, and include, e.g., enzyme isolation techniques and recombinant mutagenesis techniques etc. Examiner respectfully disagrees. As explained in the rejection as well as in the previous rebuttal to applicant's response to the rejection in the previous Office action, the specification fails to provide enough guidance to make and use the enormous number of variants claimed herein. Without such guidance one of ordinary skill in the art, even with all the available molecular biological techniques, and information such as 3-D data etc. would be subjected to undue experimentation in order to make and test each and every one of the variant that is 90% identical to SEQ ID NO:12.

Applicant argues that the test for determining enablement is not whether any experimentation is required, but rather whether undue experimentation is required which is very true. Applicant argues that the experimentation that would be required by the present invention is clearly not undue, but rather involves only routine molecular biological techniques. Examiner respectfully disagrees. Even though the techniques involve routine molecular biological techniques, experimentation required to make polypeptides that are 90% identical to SEQ ID NO:12 is undue. In response to the Examiner's example to show as to how one of ordinary skill in the art would have to test a minimum number of 19^{485} variants even to make a variant having a single amino acid change, applicant argues that it is incorrect and misses the point of a proper enablement analysis. It is the applicant's position that no where do the claims require the artisan to make all possible variants. Applicant argues, rather, the claims recite a scope which an artisan can reasonably expect the claimed substitutions to apply across. Examiner respectfully disagrees. It is not clear to the Examiner as to how the applicant can claim an extremely large genus of variants and expect that one

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skilled in the art would choose only a few variants and argue that claims are therefore enabled. Examiner cannot examine a claim using that standard. Examiner has to give the broadest interpretation of the claim and cannot resort to an interpretation that is convenient to one group of skilled artisans. While it is true that artisans can make as many variants as they would like or as few as they would like, Examiner cannot focus on the only those who would make few variants and conclude that claims are enabled. In this regard, applicant recites from the Federal Circuit Court decision handed down in *Hybritech v. Monoclonal Antibodies, Inc.*, 231 USPQ 61 (Fed. Cir. 1986). Examiner is aware of that decision. However, Examiner takes the position that the fact pattern of that case and the instant application are not one and the same.

In response to the Examiner's argument that the art does not typically engage in the screening of 19⁴⁸⁵ variants applicant argues that it again misses the point as the art does typically engage in screening vast numbers of variants using routine molecular biological techniques and the artisan is not required by any element of the claim to actually screen 19⁴⁸⁵ variants. Examiner finds such an argument as contradictory to applicant's own argument made earlier. On the one hand applicant argues that the artisan need not make all the variants that Examiner has argued and on the other hand applicant also argues that the art typically engages in screening such large numbers. For the sake of argument, even if the art engages in such large screening the number of variants contemplated by the applicant is much larger when one includes the substitutions, additions, deletions and combinations of such substitutions, deletions and additions of amino acids encompassed in the variants that are 90% identical to SEQ ID NO:12.

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In conclusion, it appears applicant argues only keeping in mind as to what is convenient from their point of view and failing to understand the issues involved when claims are analyzed giving the broadest interpretation. Therefore, contrary to applicant's belief claims are not enabled. Hence the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 25, 27-28, 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Outtrup et al. (US 5,824,531, issued Oct.1998, and US 5856164, issued Jan 1999). This rejection is based upon the public availability of issued patents. Claims 25, 27-28, 30 of the instant application are drawn to a variant of a parent α -amylase, wherein said variant comprises a

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substitution of a K at an amino acid position selected from the group consisting of 118, 320 and 458 wherein said variant has α amylase activity and an amino acid sequence of at least 90% homology to SEQ ID NO:12. Outtrup et al. disclose such a variant wherein said variant comprises a substitution of a K at amino acid positions 320 and 458 wherein said variant has α amylase activity and an amino acid sequence that is 90% identical to SEQ ID NO:12. The reference does not make it clear whether said parent of the variant is *Bacillus sp.* DSMZ no. 12649 α amylase. However, Examiner takes the position that because the variant satisfies all the claim requirements, the parent of said variant is inherently a *Bacillus sp.* DSMZ no. 12649 α amylase. Therefore, Outtrup et al. anticipate claims 25, 27-28 and 30 as written.

Since the Office does not have the facilities for examining and comparing applicants' parent protein with the parent protein of the prior art, the burden is on the applicant to show a novel or unobvious difference between the parent of the claimed product and the parent enzyme of the product of the prior art (i.e., that the parent protein of the prior art does not possess the same material structural and functional characteristics of the parent of the claimed protein). See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 205 USPQ 594.

In response to the above rejection, applicant argues that the rejection is improper on its face. Applicant argues that the Examiner has not pointed to any passage of these references which teaches a protein having a substitution of a K at an amino acid position selected from the group consisting of 118, 320 and 458. Applicant maintains Outtrup et al. does not teach variant enzymes. Outtrup et al. teach the isolation and characterization of wild-type enzymes. Examiner respectfully disagrees. Irrespective of the

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fact whether Outtrup et al. Labels their enzymes as wild-type of variants, the enzyme disclose by Outtrup et al. reads on the claimed variant of SEQ ID NO:12. As opposed to the applicant's argument, Outtrup et al. discloses a polypeptide having the amino acid sequence of SEQ ID NO:2, which is 90% identical to SEQ ID NO:12 claimed here in and comprising a substitution of a K for an R at positions 320 and 458. Examiner has provided a copy of the sequence alignment again, for applicant's convenience. From that sequence alignment, it can be readily seen that the polypeptide of Outtrup et al. reads on the variant claimed herein. Therefore the above rejection is maintained.

Claims 25, 27-28, 30 are rejected under 35 U.S.C. 102(e) as being anticipated by the following twelve US Patents 6093562, 6187576, 6197565, 6204232, 6287826, 6297038, 6361989, 6486113, 6528298, 6673589, 6867031, 6887986. This rejection is based upon patents issued to other inventive entities. Claims 25, 27-28, 30 of the instant application are drawn to a variant of a parent α -amylase, wherein said variant comprises a substitution of a K at an amino acid position selected from the group consisting of 118, 320 and 458 wherein said variant has α amylase activity and an amino acid sequence of at least 90% homology to SEQ ID NO:12. The above references disclose such a variant wherein said variant comprises a substitution of a K at amino acid positions 320 and 458 wherein said variant has α amylase activity and an amino acid sequence that is 90% identical to SEQ ID NO:12. The reference does not make it clear whether said parent of the variant is *Bacillus sp.* DSMZ no. 12649 α amylase. However, Examiner takes the position that because the variant satisfies all the claim requirements, the parent of said variant

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is inherently a *Bacillus sp.* DSMZ no. 12649 α amylase. Therefore, above patents anticipate claims 25, 27-28 and 30 as written.

Since the Office does not have the facilities for examining and comparing applicants' parent protein with the parent protein of the prior art, the burden is on the applicant to show a novel or unobvious difference between the parent of the claimed product and the parent enzyme of the product of the prior art (i.e., that the parent protein of the prior art does not possess the same material structural and functional characteristics of the parent of the claimed protein). See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 205 USPQ 594.

In response to the above rejection, applicant again argues that the rejection is improper on its face. Applicant maintains that the Examiner has not pointed to any passage in any of these 12 patents which teaches a protein having a substitution of a K at an amino acid position selected from the group consisting of 118, 320 and 458 and that the Examiner simply concludes this without directing applicant to any specific teaching. Examiner respectfully disagrees. Examiner has not simply concluded that the above patents anticipate the claimed amino acid sequence. Examiner has concluded that the above patents anticipate the claimed amino acid sequence based on searching and analyzing the sequence search results. All of the above patents disclose a sequence that is 90% identical to SEQ ID NO:12 and comprises a change at position 320 and 458. The substituted amino acid at both positions is a K for an R. For the applicant's convenience, Examiner has again included all the sequence alignments which clearly show that the instant claimed polypeptides have already been disclosed. Hence the above rejection is maintained.

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Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 25, 27-28, 30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patents 6093562, 6187576, 6197565, 6204232, 6297038, 6673589. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim, because the examined claim is either anticipated by, or would have been obvious over the reference claim. See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi* 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other. Claims 25, 27-28, 30 of the instant application and claims in the reference patents are both directed to variants of amylase having an amino acid sequence that is at least 90% identical to SEQ ID NO:12 and comprising an alteration at an amino acid corresponding to positions 320 and 458 (R to K). Among the different positions claimed in the instant application and in the reference patents the above positions are identical to the positions recited/claimed in all the reference patents. The portion

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of the specification (and the claims) in the reference patents that supports the recited amino acid positions on SEQ ID NO:12 herein includes the embodiments (amino acid positions and amino acid percent identity) that would anticipate the positions claimed in claims 25, 27-28, 30 herein. Claims of the instant application listed above cannot be considered patentably distinct over claims of the reference patents when there is specifically recited embodiment that would anticipate mainly claims 25, 27-28, 30 of the instant application. Alternatively, claims 25, 27-28, 30 cannot be considered patentably distinct over claims of the reference patents when there is specifically disclosed embodiment in the reference patents that supports claims of that patent and falls within the scope of claims 25, 27-28, 30 herein because it would have been obvious to one having ordinary skill in the art to modify claims of the reference by selecting a specifically disclosed embodiment that supports those claims i.e., a variant of a parent glucoamylase with SEQ ID NO:12 comprising changes at positions 320 and 458 and an amino acid sequence that is at least 90% identical to SEQ ID NO:12. One of ordinary skill in the art would have been motivated to do this because that embodiment is disclosed as being a preferred embodiment within claims of the reference patent.

In response to the above rejection, applicant again argues that the rejection is improper on its face. Applicant maintains that the Examiner has not pointed to any passage in any of these 12 patents which teaches a protein having a substitution of a K at an amino acid position selected from the group consisting of 118, 320 and 458 and that the Examiner simply concludes this without directing applicant to any specific teaching. Examiner respectfully disagrees. Examiner has not simply concluded that the above patents already claim the amino acid sequence claimed herein. Examiner has concluded that the above

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patents claim the amino acid sequence claimed herein based on searching and analyzing the sequence search results. All of the above patents claim a sequence that is 90% identical to SEQ ID NO:12 and comprises a change at position 320 and 458. The substituted amino acid at both positions is a K for an R. For the applicant's convenience, Examiner has again included all the sequence alignments which clearly show that the instant claimed polypeptides have already been claimed or would have been obvious. Hence the above rejection is maintained.

Conclusion

None of the claims are allowable.

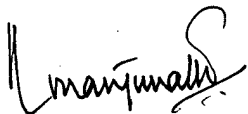
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Manjunath N. Rao, Ph.D. whose telephone number is 571-272-

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0939. The Examiner can normally be reached on 7.00 a.m. to 3.30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Ponnathapura Achutamurthy can be reached on 571-272-0928. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306/9307 for regular communications and for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.



Manjunath N. Rao, Ph.D.
Primary Examiner
Art Unit 1652

February 8, 2007

Db 181 RHGKAWDEVDTENGNYDILMTADIDMDHPEVVELRWGVMYNTLGLDGRIDAVKH 240
 QY 241 IKYSTRDWINHVSATGKMFVAFAEFKNDLGAENLYLKNWNHNSVDFVPLHYNLYNA 300
 Db 241 IKYSTRDWINHVSATGKMFVAFAEFKNDLGAENLYLKNWNHNSVDFVPLHYNLYNA 300
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 Db 301 SKSGGNYDMRNFNGTVVQRPMPHATVFDVNDHDSQPEEALSFVEWFKPLAYALTRE 360
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 Db 361 QGYPVSFYDYGIGIPTHGVPAKSKIDPILKARQKAYGRONDYLDHNNIIGWTREGNTA 420
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 Db 421 HNSGLATIMSDGAGGKMMFVGRNKAGQVWTDITGNRAGTVTINADGWNFSVNGGVS 480
 QY 481 IWVWK 485
 Db 481 IWVWK 485

RESULT 18
 US-09-441-313-6

; Sequence 6, Application US/09441313
 ; Patent No. 6887986

; GENERAL INFORMATION:

; APPLICANT: Svendsen, Allan

; APPLICANT: Kjulliff, S ren

; APPLICANT: Bisgaard-Frantzen, Henrik

; APPLICANT: Andersen, Carsten

; TITLE OF INVENTION: -Amylase Variants

; FILE REFERENCE: 5709,000-US

; CURRENT APPLICATION NUMBER: US/09/441,313

; CURRENT FILING DATE: 1999-11-16

; EARLIER APPLICATION NUMBER: 09/193,068

; EARLIER FILING DATE: 1998-11-16

; NUMBER OF SEQ ID NOS: 31

; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 6

; TYPE: PRT

; ORGANISM: Bacillus sp.

US-09-441-313-6

Query Match 96.5%; Score 2613; DB 2; Length 485;

Best Local Similarity 95.5%; Pred. No. 7.5e-217;

Matches 463; Conservative 13; Mismatches 9; Indels 0; Gaps 0;

QY 1 HNGTNGTMMQYFEWYLPNDGNHNRSLRSDASNLKDGISAVWIPPAWKASQNDVGCA 60
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QY 121 EVNPNRNQEVSGEYTIETAWTKFDPFGNGNTHSNFKRWYHFDGVNDQSRKLNRIYKF 180
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QY 241 IKYSTRDWINHVSATGKMFVAFAEFKNDLGAENLYLKNWNHNSVDFVPLHYNLYNA 300
 Db 241 IKYSTRDWINHVSATGKMFVAFAEFKNDLGAENLYLKNWNHNSVDFVPLHYNLYNA 300

QY 301 SKSGGNYDMRQIFNGTVVQRPMPHATVFDVNDHDSQPEEALSFVEWFKPLAYALTRE 360

Db 301 SKSGGNYDMRNFNGTVVQRPMPHATVFDVNDHDSQPEEALSFVEWFKPLAYALTRE 360
 QY 361 QGYPVSFYDYGIGIPTHGVPAKSKIDPILKARQKAYGRONDYLDHNNIIGWTREGNTA 420
 Db 361 QGYPVSFYDYGIGIPTHGVPAKSKIDPILKARQKAYGRONDYLDHNNIIGWTREGNTA 420
 QY 421 HNSGLATIMSDGAGGKMMFVGRNKAGQVWTDITGNRAGTVTINADGWNFSVNGGVS 480
 Db 421 HNSGLATIMSDGAGGKMMFVGRNKAGQVWTDITGNRAGTVTINADGWNFSVNGGVS 480
 QY 481 IWVWK 485
 Db 481 IWVWK 485

RESULT 19

US-08-446-803-2

; Sequence 2, Application US/08446803

; Patent No. 5824531

; GENERAL INFORMATION:

; APPLICANT: Ottrup, Helle

; APPLICANT: Bisgaard-Frantzen, Henrik

; APPLICANT: Ostergaard, Peter Rabbek

; APPLICANT: Rasmussen, Michael Dolberg

; APPLICANT: Van Der Zee, Pia

; TITLE OF INVENTION: Alkaline Bacillus Amylase

; NUMBER OF SEQUENCES: 5

; CORRESPONDENCE ADDRESS:

; ADDRESS: No. 58245310 No. 5824531disk of No. 5824531th America

; STREET: 405 Lexington Avenue

; CITY: New York

; STATE: New York

; COUNTRY: USA

; ZIP: 10174

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patent in Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/446,803

; FILING DATE: 01-June-1995

; CLASSIFICATION: 435

; ATTORNEY/AGENT INFORMATION:

; NAME: Harrington, James J.

; REGISTRATION NUMBER: 38,711

; REFERENCE/DOCKET NUMBER: 4157.204-US

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (212) 867-0123

; TELEFAX: (212) 878-9655

; INFORMATION FOR SEQ ID NO: 2:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 485 amino acids

; TYPE: amino acid

; STRANDEDNESS: single

; TOPOLOGY: linear

; MOLECULE TYPE: peptide

US-08-446-803-2

Query Match 90.0%; Score 2437; DB 1; Length 485;

Best Local Similarity 86.8%; Pred. No. 1.1e-201;

Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

QY 1 HNGTNGTMMQYFEWYLPNDGNHNRSLRSDASNLKDGISAVWIPPAWKASQNDVGCA 60
 Db 1 HNGTNGTMMQYFEWYLPNDGNHNRSLRSDASNLKDGISAVWIPPAWKASQNDVGCA 60

QY 61 YLDYDLGFEFNQKGTIRTKYGTNRQLQAQVAVNALKSGNGIOVYGDVVMNHKGGADATEMVRV 120
 Db 61 YLDYDLGFEFNQKGTIRTKYGTNRQLQAQVAVNALKSGNGIOVYGDVVMNHKGGADATEMVRV 120

QY 121 EVNPNRNQEVSGEYTIETAWTKFDPFGNGNTHSNFKRWYHFDGVNDQSRKLNRIYKF 180

Db 121 EVNNNNRQESISGDIETIAWTKFDFPGRGNTYSDFKRWYHFDGVDWDQSQFQNR1YKF 180
Qy 181 RGDGKMDWEYDTEGNGYDYLWYADIDMDHPEVNEELRNWGVWYTNILGDFRIDAVKH 240
Db 181 RGDGKMDWEYDTEGNGYDYLWYADIDMDHPEVNEELRNWGVWYTNILGDFRIDAVKH 240
Qy 241 IKYSFTDRWLNHRVSRATGKMFVAEFAEFKNDLGAIEYLNKTNWNSHVSFVDFPLHYNLYNA 300
Db 241 IKYSFTDRWLNHRVSRATGKMFVAEFAEFKNDLGAIEYLNKTNWNSHVSFVDFPLHYNLYNA 300
Qy 301 SKSGNGYDMEQIFNGTVOQHPMAVTFVNDHDSQPEALESFVVEWFKPLAYALTITRE 360
Db 301 SKSGNGYDMEQIFNGTVOQHPMAVTFVNDHDSQPEALESFVVEWFKPLAYALTITRE 360
Qy 361 QGYPSPFYDYGIGIPHTGVPAKSKIDPILFARQKAYGRONDYLDHNNIIGWTRGNTA 420
Db 361 QGYPSPFYDYGIGIPHTGVPAKSKIDPILFARQKAYGRONDYLDHNNIIGWTRGNTA 420
Qy 421 HPNSGLATIMSDGAGGKMWVGRNKAGQVWTDITGNRAGTVTINADGNGFVNGSGVS 480
Db 421 HPNSGLATIMSDGAGGKMWVGRNKAGQVWTDITGNRAGTVTINADGNGFVNGSGVS 480
Qy 481 IWNK 485
Db 481 IWNK 485

RESULT 20
US-08-861-837-2
Sequence 2, Application US/08861837
Patent No. 5856164

GENERAL INFORMATION:
APPLICANT: Olegup, Helle
APPLICANT: Bisgaard-Frantzen, Henrik
APPLICANT: Ostergaard, Peter Rahbek
APPLICANT: Rasmussen, Michael Dolberg
APPLICANT: Van Der Zee, Pia
TITLE OF INVENTION: Alkaline Amylase
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESS: No. 58561640 No. 5856164disk of No. 5856164th America
STREET: 405 Lexington Avenue
CITY: New York
STATE: New York
COUNTRY: USA
ZIP: 10174

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/861,837
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/446,803
FILING DATE: 01-June-1995
ATTORNEY/AGENT INFORMATION:
NAME: Harrington, James J.
REGISTRATION NUMBER: 38,711
REFERENCE/DOCKET NUMBER: 4157,204-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 867-0123
TELEFAX: (212) 878-9655
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 485 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

US-08-861-837-2

Query Match 90.0%; Score 2437; DB 1; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

Qy 1 HNGTGTGTMQYEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
Db 1 HNGTGTGTMQYEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
Qy 61 YDLIDLGEFNOGTITRTKGTNRNOLAQAVNALKSNQIOVYGDVVMHKGADATENVRVAV 120
Db 61 YDLIDLGEFNOGTITRTKGTNRNOLAQAVNALKSNQIOVYGDVVMHKGADATENVRVAV 120
Qy 121 EVNNNNRQESISGDIETIAWTKFDFPGRGNTYSDFKRWYHFDGVDWDQSQFQNR1YKF 180
Db 121 EVNNNNRQESISGDIETIAWTKFDFPGRGNTYSDFKRWYHFDGVDWDQSQFQNR1YKF 180
Qy 181 RGDGKMDWEYDTEGNGYDYLWYADIDMDHPEVNEELRNWGVWYTNILGDFRIDAVKH 240
Db 181 RGDGKMDWEYDTEGNGYDYLWYADIDMDHPEVNEELRNWGVWYTNILGDFRIDAVKH 240
Qy 241 IKYSFTDRWLNHRVSRATGKMFVAEFAEFKNDLGAIEYLNKTNWNSHVSFVDFPLHYNLYNA 300
Db 241 IKYSFTDRWLNHRVSRATGKMFVAEFAEFKNDLGAIEYLNKTNWNSHVSFVDFPLHYNLYNA 300
Qy 301 SKSGNGYDMEQIFNGTVOQHPMAVTFVNDHDSQPEALESFVVEWFKPLAYALTITRE 360
Db 301 SKSGNGYDMEQIFNGTVOQHPMAVTFVNDHDSQPEALESFVVEWFKPLAYALTITRE 360
Qy 361 QGYPSPFYDYGIGIPHTGVPAKSKIDPILFARQKAYGRONDYLDHNNIIGWTRGNTA 420
Db 361 QGYPSPFYDYGIGIPHTGVPAKSKIDPILFARQKAYGRONDYLDHNNIIGWTRGNTA 420
Qy 421 HPNSGLATIMSDGAGGKMWVGRNKAGQVWTDITGNRAGTVTINADGNGFVNGSGVS 480
Db 421 HPNSGLATIMSDGAGGKMWVGRNKAGQVWTDITGNRAGTVTINADGNGFVNGSGVS 480
Qy 481 IWNK 485
Db 481 IWNK 485

RESULT 21
US-08-600-656-2
Sequence 2, Application US/08600656
Patent No. 6093562

GENERAL INFORMATION:
APPLICANT: Bisgaard-Frantzen, Henrik
APPLICANT: Svendsen, Allan
APPLICANT: Borchert, Torben Vedel
TITLE OF INVENTION: AMYLASE VARIANTS
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESS: No. 60935620 No. 6093562disk of No. 6093562th America, Inc.
STREET: 405 Lexington Avenue, Suite 6400
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10174-6401
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25 (BPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/600,656
FILING DATE: 13-FEB-1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Lambiris, Elias J.
REGISTRATION NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 4318,204-US
TELECOMMUNICATION INFORMATION:

TELEPHONE: 212 867 0123
TELEFAX: 212 867 0298
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 485 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-600-656-2

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

QY 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDGISAVWIPPAWKASQNDVGYGA 60
DB 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDGISAVWIPPAWKASQNDVGYGA 60
QY 61 YDLGLGEFNGKQGTIRTKYGTNRNOLQAAVNAKNGIQVYGVVNMHKGADATENVRV 120
DB 61 YDLGLGEFNGKQGTIRTKYGTNRNOLQAAVNAKNGIQVYGVVNMHKGADATENVRV 120
QY 121 EVNPNRNQVSGEYTIETAWTKFDPGRGNTHSNFKRWYHFDGVDWQSRKLNRIYKF 180
DB 121 EVNPNRNQVSGEYTIETAWTKFDPGRGNTHSNFKRWYHFDGVDWQSRKLNRIYKF 180
QY 181 RGDKGMDWEVDTEGNGYDYLWADIDMDHPEVNVNLRNNGVWYTNLTGLDGFRIIDAVKH 240
DB 181 RGDKGMDWEVDTEGNGYDYLWADIDMDHPEVNVNLRNNGVWYTNLTGLDGFRIIDAVKH 240
QY 241 IKYSFTRDWLTNRVATGKMFVAEFAWKNDLGAENYLNKTNHNSVDFVPLHYNLYNA 300
DB 241 IKYSFTRDWLTNRVATGKMFVAEFAWKNDLGAENYLNKTNHNSVDFVPLHYNLYNA 300
QY 301 SKSGNVDYMRQIFNGTVVQHPMAVTFVNDHDSQPEALESFVVEWFKPLAYALTRE 360
DB 301 SKSGNVDYMRQIFNGTVVQHPMAVTFVNDHDSQPEALESFVVEWFKPLAYALTRE 360
QY 361 QGYPSPVYGYGIPTHGVPAKSKIDPILAEARQYAYGRQNDYLDHNNIIGWTREGNTA 420
DB 361 QGYPSPVYGYGIPTHGVPAKSKIDPILAEARQYAYGRQNDYLDHNNIIGWTREGNTA 420
QY 421 HPNSGLATIMSDGAGGNKMFVGNKAGQVWTDITGNRAGTVTINADGNFNSVNGGSVS 480
DB 421 HPNSGLATIMSDGAGGNKMFVGNKAGQVWTDITGNRAGTVTINADGNFNSVNGGSVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 22
US-09-170-670-2
Sequence 2, Application US/09170670
Patent No. 6187576
GENERAL INFORMATION:

APPLICANT: Svendsen, Allan
APPLICANT: Borchert, Torben
APPLICANT: Bisgard-Frantzen Henrik
TITLE OF INVENTION: Alpha-Amylase Mutants
FILE REFERENCE: 5276.200-US
CURRENT APPLICATION NUMBER: US/09/170,670
CURRENT FILING DATE: 1998-10-13
EARLIER FILING DATE: 1997-10-13
EARLIER FILING DATE: 1997-10-13
EARLIER FILING DATE: 1997-10-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 485
TYPE: PRT

ORGANISM: Bacillus sp.
US-09-170-670-2

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

QY 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDGISAVWIPPAWKASQNDVGYGA 60
DB 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDGISAVWIPPAWKASQNDVGYGA 60
QY 61 YDLGLGEFNGKQGTIRTKYGTNRNOLQAAVNAKNGIQVYGVVNMHKGADATENVRV 120
DB 61 YDLGLGEFNGKQGTIRTKYGTNRNOLQAAVNAKNGIQVYGVVNMHKGADATENVRV 120
QY 121 EVNPNRNQVSGEYTIETAWTKFDPGRGNTHSNFKRWYHFDGVDWQSRKLNRIYKF 180
DB 121 EVNPNRNQVSGEYTIETAWTKFDPGRGNTHSNFKRWYHFDGVDWQSRKLNRIYKF 180
QY 181 RGDKGMDWEVDTEGNGYDYLWADIDMDHPEVNVNLRNNGVWYTNLTGLDGFRIIDAVKH 240
DB 181 RGDKGMDWEVDTEGNGYDYLWADIDMDHPEVNVNLRNNGVWYTNLTGLDGFRIIDAVKH 240
QY 241 IKYSFTRDWLTNRVATGKMFVAEFAWKNDLGAENYLNKTNHNSVDFVPLHYNLYNA 300
DB 241 IKYSFTRDWLTNRVATGKMFVAEFAWKNDLGAENYLNKTNHNSVDFVPLHYNLYNA 300
QY 301 SKSGNVDYMRQIFNGTVVQHPMAVTFVNDHDSQPEALESFVVEWFKPLAYALTRE 360
DB 301 SKSGNVDYMRQIFNGTVVQHPMAVTFVNDHDSQPEALESFVVEWFKPLAYALTRE 360
QY 361 QGYPSPVYGYGIPTHGVPAKSKIDPILAEARQYAYGRQNDYLDHNNIIGWTREGNTA 420
DB 361 QGYPSPVYGYGIPTHGVPAKSKIDPILAEARQYAYGRQNDYLDHNNIIGWTREGNTA 420
QY 421 HPNSGLATIMSDGAGGNKMFVGNKAGQVWTDITGNRAGTVTINADGNFNSVNGGSVS 480
DB 421 HPNSGLATIMSDGAGGNKMFVGNKAGQVWTDITGNRAGTVTINADGNFNSVNGGSVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 23
US-09-170-670-8
Sequence 8, Application US/09170670
Patent No. 6187576
GENERAL INFORMATION:

APPLICANT: Svendsen, Allan
APPLICANT: Borchert, Torben
APPLICANT: Bisgard-Frantzen Henrik
TITLE OF INVENTION: Alpha-Amylase Mutants
FILE REFERENCE: 5276.200-US
CURRENT APPLICATION NUMBER: US/09/170,670
CURRENT FILING DATE: 1998-10-13
EARLIER FILING DATE: 1997-10-13
EARLIER FILING DATE: 1997-10-13
EARLIER FILING DATE: 1997-10-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 8
LENGTH: 485
TYPE: PRT
ORGANISM: Bacillus sp.
US-09-170-670-8

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
QY 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDGISAVWIPPAWKASQNDVGYGA 60

Db 1 HNGTNGTMOYFEWHLPNQGNHNRRLDASNLNRGITAIIWIPPAWKTSQNDVGGA 60
Qy 61 YDLIDGFEFNQKGTIRTKYGTNRQQAVALNKSNGIQVYGVVNMHKGADATEMVRV 120
Db 61 YDLIDGFEFNQKGTIRTKYGTNRQQAVALNKSNGIQVYGVVNMHKGADATEMVRV 120
Qy 121 EVNPNRNRQSVGEYTIETAWTKFDFPGRGNTSDFKRWYHFDGVDMQSRQFNRIYKF 180
Db 121 EVNPNRNRQSVGEYTIETAWTKFDFPGRGNTSDFKRWYHFDGVDMQSRQFNRIYKF 180
Qy 181 RGDGKAWDEVDTEGNGYDILMYADIDMDHPEVNVNLRNMGVYVNTLGLDGFRIIDAVKH 240
Db 181 RGDGKAWDEVDTEGNGYDILMYADIDMDHPEVNVNLRNMGVYVNTLGLDGFRIIDAVKH 240
Qy 241 IKYSFTRDWINHVRNATGKMFVAEFAWKNDLGAENYLNKTNWNHNSVDFVPLHYNLYNA 300
Db 241 IKYSFTRDWINHVRNATGKMFVAEFAWKNDLGAENYLNKTNWNHNSVDFVPLHYNLYNA 300
Qy 301 SKSGGNYDMROIENGTVVQHPHMAVTFVDNHDSPQEEALESFVEEWFKPLAYALITRE 360
Db 301 SKSGGNYDMROIENGTVVQHPHMAVTFVDNHDSPQEEALESFVEEWFKPLAYALITRE 360
Qy 361 QGYSVFGYDYGIPHTGVPAMKSKIDPILKARQYAYGRNDYLDHNNIIGWTRGNTA 420
Db 361 QGYSVFGYDYGIPHTGVPAMKSKIDPILKARQYAYGRNDYLDHNNIIGWTRGNTA 420
Qy 421 HNSGLATTMSDAGGNKMWFGVGRNKAQOVWTDITGNRAGTVTINADGKNSVNGSGVS 480
Db 421 HNSGLATTMSDAGGNKMWFGVGRNKAQOVWTDITGNRAGTVTINADGKNSVNGSGVS 480
Qy 481 IWVWK 485
Db 481 IWVWK 485

RESULT 24

US-09-193-068-2

; Sequence 2, Application US/09193068

; Patent No. 6197565

; GENERAL INFORMATION:

; APPLICANT: Svendsen, Allan

; APPLICANT: Kjulliff, S ren

; APPLICANT: Bisgaard-Frantzen, Henrik

; APPLICANT: Andersen, Carsten

; TITLE OF INVENTION: -Amylase Variants

; FILE REFERENCE: 5709.000-US

; CURRENT APPLICATION NUMBER: US/09/193,068

; CURRENT FILING DATE: 1998-11-16

; NUMBER OF SEQ ID NOS: 31

; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 2

; LENGTH: 485

; TYPE: PRT

; ORGANISM: Bacillus sp.

US-09-193-068-2

Query Match

Best Local Similarity 90.0%; Score 2437; DB 2; Length 485;

Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

Qy 1 HNGTNGTMOYFEWHLPNQGNHNRRLDASNLNRGITAIIWIPPAWKTSQNDVGGA 60

Db 1 HNGTNGTMOYFEWHLPNQGNHNRRLDASNLNRGITAIIWIPPAWKTSQNDVGGA 60

Qy 61 YDLIDGFEFNQKGTIRTKYGTNRQQAVALNKSNGIQVYGVVNMHKGADATEMVRV 120

Db 61 YDLIDGFEFNQKGTIRTKYGTNRQQAVALNKSNGIQVYGVVNMHKGADATEMVRV 120

Qy 121 EVNPNRNRQSVGEYTIETAWTKFDFPGRGNTSDFKRWYHFDGVDMQSRQFNRIYKF 180

Db 121 EVNPNRNRQSVGEYTIETAWTKFDFPGRGNTSDFKRWYHFDGVDMQSRQFNRIYKF 180

Qy 181 RGDGKAWDEVDTEGNGYDILMYADIDMDHPEVNVNLRNMGVYVNTLGLDGFRIIDAVKH 240

Db 181 RGDGKAWDEVDTEGNGYDILMYADIDMDHPEVNVNLRNMGVYVNTLGLDGFRIIDAVKH 240

Qy 241 IKYSFTRDWINHVRNATGKMFVAEFAWKNDLGAENYLNKTNWNHNSVDFVPLHYNLYNA 300

Db 241 IKYSFTRDWINHVRNATGKMFVAEFAWKNDLGAENYLNKTNWNHNSVDFVPLHYNLYNA 300

Qy 301 SKSGGNYDMROIENGTVVQHPHMAVTFVDNHDSPQEEALESFVEEWFKPLAYALITRE 360

Db 301 SKSGGNYDMROIENGTVVQHPHMAVTFVDNHDSPQEEALESFVEEWFKPLAYALITRE 360

Qy 181 RGDGKAWDEVDTEGNGYDILMYADIDMDHPEVNVNLRNMGVYVNTLGLDGFRIIDAVKH 240
Db 181 RGDGKAWDEVDTEGNGYDILMYADIDMDHPEVNVNLRNMGVYVNTLGLDGFRIIDAVKH 240
Qy 241 IKYSFTRDWINHVRNATGKMFVAEFAWKNDLGAENYLNKTNWNHNSVDFVPLHYNLYNA 300
Db 241 IKYSFTRDWINHVRNATGKMFVAEFAWKNDLGAENYLNKTNWNHNSVDFVPLHYNLYNA 300
Qy 301 SKSGGNYDMROIENGTVVQHPHMAVTFVDNHDSPQEEALESFVEEWFKPLAYALITRE 360
Db 301 SKSGGNYDMROIENGTVVQHPHMAVTFVDNHDSPQEEALESFVEEWFKPLAYALITRE 360
Qy 361 QGYSVFGYDYGIPHTGVPAMKSKIDPILKARQYAYGRNDYLDHNNIIGWTRGNTA 420
Db 361 QGYSVFGYDYGIPHTGVPAMKSKIDPILKARQYAYGRNDYLDHNNIIGWTRGNTA 420
Qy 421 HNSGLATTMSDAGGNKMWFGVGRNKAQOVWTDITGNRAGTVTINADGKNSVNGSGVS 480
Db 421 HNSGLATTMSDAGGNKMWFGVGRNKAQOVWTDITGNRAGTVTINADGKNSVNGSGVS 480
Qy 481 IWVWK 485
Db 481 IWVWK 485

RESULT 25

US-09-193-068-8

; Sequence 8, Application US/09193068

; Patent No. 6197565

; GENERAL INFORMATION:

; APPLICANT: Svendsen, Allan

; APPLICANT: Kjulliff, S ren

; APPLICANT: Bisgaard-Frantzen, Henrik

; APPLICANT: Andersen, Carsten

; TITLE OF INVENTION: -Amylase Variants

; FILE REFERENCE: 5709.000-US

; CURRENT APPLICATION NUMBER: US/09/193,068

; CURRENT FILING DATE: 1998-11-16

; NUMBER OF SEQ ID NOS: 31

; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 8

; LENGTH: 485

; TYPE: PRT

; ORGANISM: Bacillus sp.

US-09-193-068-8

Query Match

Best Local Similarity 90.0%; Score 2437; DB 2; Length 485;

Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

Qy 1 HNGTNGTMOYFEWHLPNQGNHNRRLDASNLNRGITAIIWIPPAWKTSQNDVGGA 60

Db 1 HNGTNGTMOYFEWHLPNQGNHNRRLDASNLNRGITAIIWIPPAWKTSQNDVGGA 60

Qy 61 YDLIDGFEFNQKGTIRTKYGTNRQQAVALNKSNGIQVYGVVNMHKGADATEMVRV 120

Db 61 YDLIDGFEFNQKGTIRTKYGTNRQQAVALNKSNGIQVYGVVNMHKGADATEMVRV 120

Qy 121 EVNPNRNRQSVGEYTIETAWTKFDFPGRGNTSDFKRWYHFDGVDMQSRQFNRIYKF 180

Db 121 EVNPNRNRQSVGEYTIETAWTKFDFPGRGNTSDFKRWYHFDGVDMQSRQFNRIYKF 180

Qy 181 RGDGKAWDEVDTEGNGYDILMYADIDMDHPEVNVNLRNMGVYVNTLGLDGFRIIDAVKH 240

Db 181 RGDGKAWDEVDTEGNGYDILMYADIDMDHPEVNVNLRNMGVYVNTLGLDGFRIIDAVKH 240

Qy 241 IKYSFTRDWINHVRNATGKMFVAEFAWKNDLGAENYLNKTNWNHNSVDFVPLHYNLYNA 300

Db 241 IKYSFTRDWINHVRNATGKMFVAEFAWKNDLGAENYLNKTNWNHNSVDFVPLHYNLYNA 300

Qy 301 SKSGGNYDMROIENGTVVQHPHMAVTFVDNHDSPQEEALESFVEEWFKPLAYALITRE 360

Db 301 SKSGGNYDMROIENGTVVQHPHMAVTFVDNHDSPQEEALESFVEEWFKPLAYALITRE 360

QY 361 QGYPSVFYGDYGIPTGTHGVPAKSKIDPILBARKYAYGRQNDYLDHNIIGWTREGNTA 420
Db 361 QGYPSVFYGDYGIPTGTHGVPAKSKIDPILBARKYAYGRQNDYLDHNIIGWTREGNT 420
QY 421 HPSGLATTMSDAGAGNKMVFGRNKGQVWTDITGNRAGTGTINADGNGFVSNGGVS 480
Db 421 HPSGLATTMSDAGAGNKMVFGRNKGQVWTDITGNRAGTGTINADGNGFVSNGGVS 480
QY 481 IWVWK 485
Db 481 IWVWK 485

RESULT 26
US-09-183-412-2
; Sequence 2, Application US/09183412
; Patent No. 6204232

GENERAL INFORMATION:

; APPLICANT: Borchert, Torben V.
; APPLICANT: Svendsen, Allan
; APPLICANT: Andersen, Carsten
; APPLICANT: Nielsen, Bjarne
; APPLICANT: Nissen, Torben L.
; APPLICANT: Kjaerulff, Soren
; TITLE OF INVENTION: Alpha-Amulase Mutants
; FILE REFERENCE: 5368.200-US
; CURRENT APPLICATION NUMBER: US/09/183,412
; CURRENT FILING DATE: 1998-10-30
; EARLIER APPLICATION NUMBER: 60/064,662
; EARLIER FILING DATE: 1997-11-06
; EARLIER APPLICATION NUMBER: 60/093,234
; EARLIER FILING DATE: 1998-07-17
; EARLIER APPLICATION NUMBER: 1240/97
; EARLIER FILING DATE: 1997-10-30
; EARLIER APPLICATION NUMBER: PA 1998 00936
; EARLIER FILING DATE: 1998-07-14
; NUMBER OF SEQ ID NOS: 58
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 2

; LENGTH: 485
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-183-412-2

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

QY 1 HNGTGTMMQYFEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
Db 1 HNGTGTMMQYFEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
QY 61 YDLGCEFNQKGTIRTKYGTNRNLOQAANALKSNGIOVYGDVVMHKGADATFEMVRAV 120
Db 61 YDLGCEFNQKGTIRTKYGTNRNLOQAANALKSNGIOVYGDVVMHKGADATFEMVRAV 120
QY 121 EVNPNRNRQESGYTTEATWTKDFPGRGNTHSNFKRWYHFDGVDWQSRKLNRIYKF 180
Db 121 EVNPNRNRQESGYTTEATWTKDFPGRGNTHSNFKRWYHFDGVDWQSRKLNRIYKF 180
QY 181 RGDGKAWDEVDSENGNYDYLAVDMDHPVNNELRWGEWYNTNLNDGFRIDAVKH 240
Db 181 RGDGKAWDEVDSENGNYDYLAVDMDHPVNNELRWGEWYNTNLNDGFRIDAVKH 240
QY 241 IKYSPTDWINHRSATGKMEFAEFAEKNDLGAENLYLNKTNWHSVFDVPLHYNLYNA 300
Db 241 IKYSPTDWINHRSATGKMEFAEFAEKNDLGAENLYLNKTNWHSVFDVPLHYNLYNA 300
QY 301 SKSGGNYDMRQIFNGTVVQRHPMHAVTFVDNHDSPQESLESFVQEWFKPLAYALITRE 360
Db 301 SKSGGNYDMRQIFNGTVVQRHPMHAVTFVDNHDSPQESLESFVQEWFKPLAYALITRE 360

QY 361 QGYPSVFYGDYGIPTGTHGVPAKSKIDPILBARKYAYGRQNDYLDHNIIGWTREGNTA 420
Db 361 QGYPSVFYGDYGIPTGTHGVPAKSKIDPILBARKYAYGRQNDYLDHNIIGWTREGNT 420
QY 421 HPSGLATTMSDAGAGNKMVFGRNKGQVWTDITGNRAGTGTINADGNGFVSNGGVS 480
Db 421 HPSGLATTMSDAGAGNKMVFGRNKGQVWTDITGNRAGTGTINADGNGFVSNGGVS 480
QY 481 IWVWK 485
Db 481 IWVWK 485

RESULT 27
US-09-183-412-8
; Sequence 8, Application US/09183412
; Patent No. 6204232

GENERAL INFORMATION:

; APPLICANT: Borchert, Torben V.
; APPLICANT: Svendsen, Allan
; APPLICANT: Andersen, Carsten
; APPLICANT: Nielsen, Bjarne
; APPLICANT: Nissen, Torben L.
; APPLICANT: Kjaerulff, Soren
; TITLE OF INVENTION: Alpha-Amulase Mutants
; FILE REFERENCE: 5368.200-US
; CURRENT APPLICATION NUMBER: US/09/183,412
; CURRENT FILING DATE: 1998-10-30
; EARLIER APPLICATION NUMBER: 60/064,662
; EARLIER FILING DATE: 1997-11-06
; EARLIER APPLICATION NUMBER: 60/093,234
; EARLIER FILING DATE: 1998-07-17
; EARLIER APPLICATION NUMBER: 1240/97
; EARLIER FILING DATE: 1997-10-30
; EARLIER APPLICATION NUMBER: PA 1998 00936
; EARLIER FILING DATE: 1998-07-14
; NUMBER OF SEQ ID NOS: 58
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 8

; LENGTH: 485
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-183-412-8

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

QY 1 HNGTGTMMQYFEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
Db 1 HNGTGTMMQYFEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
QY 61 YDLGCEFNQKGTIRTKYGTNRNLOQAANALKSNGIOVYGDVVMHKGADATFEMVRAV 120
Db 61 YDLGCEFNQKGTIRTKYGTNRNLOQAANALKSNGIOVYGDVVMHKGADATFEMVRAV 120
QY 121 EVNPNRNRQESGYTTEATWTKDFPGRGNTHSNFKRWYHFDGVDWQSRKLNRIYKF 180
Db 121 EVNPNRNRQESGYTTEATWTKDFPGRGNTHSNFKRWYHFDGVDWQSRKLNRIYKF 180
QY 181 RGDGKAWDEVDSENGNYDYLAVDMDHPVNNELRWGEWYNTNLNDGFRIDAVKH 240
Db 181 RGDGKAWDEVDSENGNYDYLAVDMDHPVNNELRWGEWYNTNLNDGFRIDAVKH 240
QY 241 IKYSPTDWINHRSATGKMEFAEFAEKNDLGAENLYLNKTNWHSVFDVPLHYNLYNA 300
Db 241 IKYSPTDWINHRSATGKMEFAEFAEKNDLGAENLYLNKTNWHSVFDVPLHYNLYNA 300
QY 301 SKSGGNYDMRQIFNGTVVQRHPMHAVTFVDNHDSPQESLESFVQEWFKPLAYALITRE 360
Db 301 SKSGGNYDMRQIFNGTVVQRHPMHAVTFVDNHDSPQESLESFVQEWFKPLAYALITRE 360
QY 361 QGYPSVFYGDYGIPTGTHGVPAKSKIDPILBARKYAYGRQNDYLDHNIIGWTREGNTA 420

Db 361 QGYPSVFGDYGIPTHSVPAMKAKIDPILARQNFAYGTQHDYFDHNIIGTREGNTT 420
QY 421 HPNSGLATIMSDGAGNKWVFGRNKGAGQVWTDITGNRAGTITINADGWNFSVNGGVS 480
Db 421 HPNSGLATIMSDGPGGKWMYVQNKAGQVWHDITGNRPGTITINADGWNFSVNGGVS 480
QY 481 IWNK 485
Db 481 IWNK 485
RESULT 28
US-09-264-097-5
Sequence 5, Application US/09264097
Patent No. 6287826
GENERAL INFORMATION:
APPLICANT: No. 6287826man, Barrie Edmund
APPLICANT: Hendriksen, Hanne Vang
TITLE OF INVENTION: Enzymatic Preparation of Glucose Syrup
FILE REFERENCE: 5278-200-US
CURRENT APPLICATION NUMBER: US/09/264,097
CURRENT FILING DATE: 1999-03-08
EARLIER APPLICATION NUMBER: PA 0321/98
EARLIER FILING DATE: 1998-03-09
EARLIER APPLICATION NUMBER: 60/079,209
EARLIER FILING DATE: 1998-03-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 5
LENGTH: 485
TYPE: PRT
ORGANISM: Bacillus
US-09-264-097-5

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
QY 1 HNGTGTMTQYFEWYLPNDGNHNRRLSDANLKDKGISAVMIPPAWKASQNDVGYGA 60
Db 1 HNGTGTMTQYFEWYLPNDGNHNRRLSDANLKDKGISAVMIPPAWKASQNDVGYGA 60
QY 61 YDLYDLGEFNQGTIRTKYGTNRLOAAVNAKNSGIOVYGDVVMNHKGGADATENVRV 120
Db 61 YDLYDLGEFNQGTIRTKYGTNRLOAAVNAKNSGIOVYGDVVMNHKGGADATENVRV 120
QY 121 EVNPNRNRQESGEYTIETAWTKDFPGRGNTHSNFKRWYHFDGVDQSRKLNRIYKF 180
Db 121 EVNPNRNRQESGEYTIETAWTKDFPGRGNTHSNFKRWYHFDGVDQSRKLNRIYKF 180
QY 181 RGDGKAWDEVDTENGNYDLYMADIDMDHPEVNNELRWGVTYNTLGLDGFRIIDAVKH 240
Db 181 RGDGKAWDEVDTENGNYDLYMADIDMDHPEVNNELRWGVTYNTLGLDGFRIIDAVKH 240
QY 241 IKYSFTRDWINHVRNATGKMPFAVAFWKNLGALENYLNKTNWHSVDFVPLHNLNA 300
Db 241 IKYSFTRDWINHVRNATGKMPFAVAFWKNLGALENYLNKTNWHSVDFVPLHNLNA 300
QY 301 SKSGGNYDMRQIPNGTVQRPMPHATVFDVNDHDSQPEEALLESFVEEFKPLAYALTRE 360
Db 301 SKSGGNYDMRQIPNGTVQRPMPHATVFDVNDHDSQPEEALLESFVEEFKPLAYALTRE 360
QY 361 QGYPSVFGDYGIPTHSVPAMKAKIDPILARQNFAYGTQHDYFDHNIIGTREGNTA 420
Db 361 QGYPSVFGDYGIPTHSVPAMKAKIDPILARQNFAYGTQHDYFDHNIIGTREGNTT 420
QY 421 HPNSGLATIMSDGAGNKWVFGRNKGAGQVWTDITGNRAGTITINADGWNFSVNGGVS 480
Db 421 HPNSGLATIMSDGPGGKWMYVQNKAGQVWHDITGNRPGTITINADGWNFSVNGGVS 480
QY 481 IWNK 485

Db 481 IWNK 485
RESULT 29
US-09-354-191A-2
Sequence 2, Application US/09354191A
Patent No. 6297038
GENERAL INFORMATION:
APPLICANT: Bisgard-Frantzen, Henrik
APPLICANT: Svendsen, Allan
APPLICANT: Borchert, Torben Vedel
TITLE OF INVENTION: AMYLASE VARIANTS
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 62970380 No. 6297038disk of No. 6297038th America, Inc.
STREET: 405 Lexington Avenue, Suite 6400
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10174-6401
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25 (BPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/354,191A
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/600,656
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Lambiris, Elias J.
REGISTRATION NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 4318.204-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212 867 0123
TELEFAX: 212 867 0298
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 485 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-09-354-191A-2

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
QY 1 HNGTGTMTQYFEWYLPNDGNHNRRLSDANLKDKGISAVMIPPAWKASQNDVGYGA 60
Db 1 HNGTGTMTQYFEWYLPNDGNHNRRLSDANLKDKGISAVMIPPAWKASQNDVGYGA 60
QY 61 YDLYDLGEFNQGTIRTKYGTNRLOAAVNAKNSGIOVYGDVVMNHKGGADATENVRV 120
Db 61 YDLYDLGEFNQGTIRTKYGTNRLOAAVNAKNSGIOVYGDVVMNHKGGADATENVRV 120
QY 121 EVNPNRNRQESGEYTIETAWTKDFPGRGNTHSNFKRWYHFDGVDQSRKLNRIYKF 180
Db 121 EVNPNRNRQESGEYTIETAWTKDFPGRGNTHSNFKRWYHFDGVDQSRKLNRIYKF 180
QY 181 RGDGKAWDEVDTENGNYDLYMADIDMDHPEVNNELRWGVTYNTLGLDGFRIIDAVKH 240
Db 181 RGDGKAWDEVDTENGNYDLYMADIDMDHPEVNNELRWGVTYNTLGLDGFRIIDAVKH 240
QY 241 IKYSFTRDWINHVRNATGKMPFAVAFWKNLGALENYLNKTNWHSVDFVPLHNLNA 300
Db 241 IKYSFTRDWINHVRNATGKMPFAVAFWKNLGALENYLNKTNWHSVDFVPLHNLNA 300

QY 301 SKSGNYDMRQIFNGTIVVQRHPHMAVTFVDNHDSDPEEALBSFVEWFKPLAYALTRE 360
DB 301 SNSGNYDMKXLLNGTIVVQKHPHMAVTFVDNHDSDPESLESFVGEWFKPLAYALTRE 360
QY 361 QGYSVFYDYGIPHTGVPAMKSKIDPILARQKAYAGQNDYLDHNNIIGWTREGNTA 420
DB 361 QGYSVFYDYGIPHTGVPAMKSKIDPILARQKAYAGQNDYLDHNNIIGWTREGNT 420
QY 421 HPNSGLATIMSDGAGGNKWMFVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGGSVS 480
DB 421 HPNSGLATIMSDGAGGNKWMFVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGGSVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 30
US-09-290-734-2
Sequence 2, Application US/09290734
Patent No. 6361989

GENERAL INFORMATION:
APPLICANT: Svendsen, Allan
APPLICANT: Borchert, Torben Vedel
APPLICANT: Bisgard-Frantzen Henrik
APPLICANT: Outtrup, Helle
APPLICANT: Nielsen, Bjarne Ronfeldt
APPLICANT: Nielsen, Vibeke Skovgaard
APPLICANT: Hoeck, Lisbeth Hedegaard
FILE REFERENCE: No. 6361989el -Amylase And -Amylase Mutants
CURRENT APPLICATION NUMBER: US/09/290,734
CURRENT FILING DATE: 1999-04-13
NUMBER OF SEQ ID NOS: 35
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 485
TYPE: PRT
ORGANISM: Bacillus sp.
US-09-290-734-2

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
QY 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDKGISAVWIPPAWKGSQNDVGYGA 60
DB 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDKGISAVWIPPAWKGSQNDVGYGA 60
QY 61 YLDYDLGEFNOKGTIRTKYTRNQLQAANALKSNGIOVYGDVVMHKGADATENVRAV 120
DB 61 YLDYDLGEFNOKGTIRTKYTRNQLQAANALKSNGIOVYGDVVMHKGADATENVRAV 120
QY 121 EVNPNRNEQVSGEYITIAWTKDFPGRGNTHSNFKRWVHPDGVWDQSRKLNRIYKF 180
DB 121 EVNPNRNEQVSGEYITIAWTKDFPGRGNTHSNFKRWVHPDGVWDQSRKLNRIYKF 180
QY 181 RGDGKAWDEVDSENGNYDLYADMDHPPEVNNELRWGWTNTNLDGFRIDAVKH 240
DB 181 RGDGKAWDEVDSENGNYDLYADMDHPPEVNNELRWGWTNTNLDGFRIDAVKH 240
QY 241 IKYSPTFRDMLTHVRNATGKMFVAEFAFNKNDLGAENLYLNKTNWNSHVSFVPLHLYNLA 300
DB 241 IKYSPTFRDMLTHVRNATGKMFVAEFAFNKNDLGAENLYLNKTNWNSHVSFVPLHLYNLA 300
QY 301 SKSGNYDMRQIFNGTIVVQRHPHMAVTFVDNHDSDPEEALBSFVEWFKPLAYALTRE 360
DB 301 SNSGNYDMKXLLNGTIVVQKHPHMAVTFVDNHDSDPESLESFVGEWFKPLAYALTRE 360
QY 361 QGYSVFYDYGIPHTGVPAMKSKIDPILARQKAYAGQNDYLDHNNIIGWTREGNTA 420
DB 361 QGYSVFYDYGIPHTGVPAMKSKIDPILARQKAYAGQNDYLDHNNIIGWTREGNT 420

QY 421 HPNSGLATIMSDGAGGNKWMFVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGGSVS 480
DB 421 HPNSGLATIMSDGAGGNKWMFVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGGSVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 31
US-09-290-734-8
Sequence 8, Application US/09290734
Patent No. 6361989

GENERAL INFORMATION:
APPLICANT: Svendsen, Allan
APPLICANT: Borchert, Torben Vedel
APPLICANT: Bisgard-Frantzen Henrik
APPLICANT: Outtrup, Helle
APPLICANT: Nielsen, Bjarne Ronfeldt
APPLICANT: Nielsen, Vibeke Skovgaard
APPLICANT: Hoeck, Lisbeth Hedegaard
FILE REFERENCE: No. 6361989el -Amylase And -Amylase Mutants
CURRENT APPLICATION NUMBER: US/09/290,734
CURRENT FILING DATE: 1999-04-13
NUMBER OF SEQ ID NOS: 35
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 8
LENGTH: 485
TYPE: PRT
ORGANISM: Bacillus sp.
US-09-290-734-8

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
QY 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDKGISAVWIPPAWKGSQNDVGYGA 60
DB 1 HNGTGTMMQYFEWYLPNDGNHNRRLSDASNLKDKGISAVWIPPAWKGSQNDVGYGA 60
QY 61 YLDYDLGEFNOKGTIRTKYTRNQLQAANALKSNGIOVYGDVVMHKGADATENVRAV 120
DB 61 YLDYDLGEFNOKGTIRTKYTRNQLQAANALKSNGIOVYGDVVMHKGADATENVRAV 120
QY 121 EVNPNRNEQVSGEYITIAWTKDFPGRGNTHSNFKRWVHPDGVWDQSRKLNRIYKF 180
DB 121 EVNPNRNEQVSGEYITIAWTKDFPGRGNTHSNFKRWVHPDGVWDQSRKLNRIYKF 180
QY 181 RGDGKAWDEVDSENGNYDLYADMDHPPEVNNELRWGWTNTNLDGFRIDAVKH 240
DB 181 RGDGKAWDEVDSENGNYDLYADMDHPPEVNNELRWGWTNTNLDGFRIDAVKH 240
QY 241 IKYSPTFRDMLTHVRNATGKMFVAEFAFNKNDLGAENLYLNKTNWNSHVSFVPLHLYNLA 300
DB 241 IKYSPTFRDMLTHVRNATGKMFVAEFAFNKNDLGAENLYLNKTNWNSHVSFVPLHLYNLA 300
QY 301 SKSGNYDMRQIFNGTIVVQRHPHMAVTFVDNHDSDPEEALBSFVEWFKPLAYALTRE 360
DB 301 SNSGNYDMKXLLNGTIVVQKHPHMAVTFVDNHDSDPESLESFVGEWFKPLAYALTRE 360
QY 361 QGYSVFYDYGIPHTGVPAMKSKIDPILARQKAYAGQNDYLDHNNIIGWTREGNTA 420
DB 361 QGYSVFYDYGIPHTGVPAMKSKIDPILARQKAYAGQNDYLDHNNIIGWTREGNT 420
QY 421 HPNSGLATIMSDGAGGNKWMFVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGGSVS 480
DB 421 HPNSGLATIMSDGAGGNKWMFVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGGSVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 32
US-09-381-687-3
; Sequence 3, Application US/09381687
; Patent No. 6486113
; GENERAL INFORMATION:
; APPLICANT: HATADA, Yoji
; APPLICANT: IKAWA, Kaori
; APPLICANT: ITO, Susumu
; APPLICANT: IGARASHI, Kazuaki
; APPLICANT: HAGIHARA, Hiroshi
; APPLICANT: HAYASHI, Yasuhiko
; APPLICANT: ARAKI, Hiroyuki
; APPLICANT: OZAKI, Katsuya
; TITLE OF INVENTION: MUTANT ALPHA-AMYLASES
; FILE REFERENCE: 2173-0115P
; CURRENT APPLICATION NUMBER: US/09/381,687
; CURRENT FILING DATE: 1999-09-23
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 3
; LENGTH: 485
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-381-687-3

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
QY 1 HNGTGTMMQYFEWYLPNDGNHNLRLSDASNLKDKGISAVWIPPAWKGSQNDVGYGA 60
DB 1 HNGTGTMMQYFEWYLPNDGNHNLRLSDASNLKDKGISAVWIPPAWKGSQNDVGYGA 60
QY 61 YDLIDLGEFNQKGTITKYGTRNLOQAANVAKSNGIOVYGDVVMHKGADATEMVRV 120
DB 61 YDLIDLGEFNQKGTITKYGTRNLOQAANVAKSNGIOVYGDVVMHKGADATEMVRV 120
QY 121 EVNPNRNQEVSGEYTIETAWTKDFPGRGNTHSNFKRWYHFDGVDMQSRKLNRIYKF 180
DB 121 EVNPNRNQEVSGEYTIETAWTKDFPGRGNTHSNFKRWYHFDGVDMQSRKLNRIYKF 180
QY 181 RGDGKAWDEVDSENGYDLYMADIMDHPEVNNELRWGVTYNTLGLDGRIDAVKH 240
DB 181 RGDGKAWDEVDSENGYDLYMADIMDHPEVNNELRWGVTYNTLGLDGRIDAVKH 240
QY 241 IKYSFTDRMWNHRSATGKMFVAFWKNDLGAIENLYNKNWNHNSVDFVPLHYNLXNA 300
DB 241 IKYSFTDRMWNHRSATGKMFVAFWKNDLGAIENLYNKNWNHNSVDFVPLHYNLXNA 300
QY 301 SKSGGNYDMROIFNGTVVQHPHMAVTFVDNHDSPERALESPVEWFKPLAYALTIRE 360
DB 301 SKSGGNYDMROIFNGTVVQHPHMAVTFVDNHDSPERALESPVEWFKPLAYALTIRE 360
QY 361 QGYPVFGYDYGIPHTGVPAMKSIDPILAEARQYAYGRONDYLDHNNIIGWTREGNTA 420
DB 361 QGYPVFGYDYGIPHTGVPAMKSIDPILAEARQYAYGRONDYLDHNNIIGWTREGNTA 420
QY 421 HPNSGLATIMSDGAGNKMVGRNKAQOVWTDITGNRAGTVTINADGNGFVSVNGSVS 480
DB 421 HPNSGLATIMSDGAGNKMVGRNKAQOVWTDITGNRAGTVTINADGNGFVSVNGSVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 33
US-09-545-586-2
; Sequence 2, Application US/09545586
; Patent No. 6528298
; GENERAL INFORMATION:
; APPLICANT: Svendsen, Allan

APPLICANT: Borchert, Torben Vedel
APPLICANT: Bisgard-Frantzen Henrik
APPLICANT: Outtrup, Helle
APPLICANT: Nielsen, Bjarne Ronfeldt
APPLICANT: Nielsen, Vibeke Skovgaard
APPLICANT: Hoeck, Lisbeth Hedegaard
TITLE OF INVENTION: No. 6528298el -Amylase And -Amylase Mutants
FILE REFERENCE: 5276.400-US
CURRENT APPLICATION NUMBER: US/09/545,586
PRIOR FILING DATE: 2000-04-07
PRIOR APPLICATION NUMBER: US/09/290,734
NUMBER OF SEQ ID NOS: 35
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 485
TYPE: PRT
ORGANISM: Bacillus sp.
US-09-545-586-2
Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
QY 1 HNGTGTMMQYFEWYLPNDGNHNLRLSDASNLKDKGISAVWIPPAWKGSQNDVGYGA 60
DB 1 HNGTGTMMQYFEWYLPNDGNHNLRLSDASNLKDKGISAVWIPPAWKGSQNDVGYGA 60
QY 61 YDLIDLGEFNQKGTITKYGTRNLOQAANVAKSNGIOVYGDVVMHKGADATEMVRV 120
DB 61 YDLIDLGEFNQKGTITKYGTRNLOQAANVAKSNGIOVYGDVVMHKGADATEMVRV 120
QY 121 EVNPNRNQEVSGEYTIETAWTKDFPGRGNTHSNFKRWYHFDGVDMQSRKLNRIYKF 180
DB 121 EVNPNRNQEVSGEYTIETAWTKDFPGRGNTHSNFKRWYHFDGVDMQSRKLNRIYKF 180
QY 181 RGDGKAWDEVDSENGYDLYMADIMDHPEVNNELRWGVTYNTLGLDGRIDAVKH 240
DB 181 RGDGKAWDEVDSENGYDLYMADIMDHPEVNNELRWGVTYNTLGLDGRIDAVKH 240
QY 241 IKYSFTDRMWNHRSATGKMFVAFWKNDLGAIENLYNKNWNHNSVDFVPLHYNLXNA 300
DB 241 IKYSFTDRMWNHRSATGKMFVAFWKNDLGAIENLYNKNWNHNSVDFVPLHYNLXNA 300
QY 301 SKSGGNYDMROIFNGTVVQHPHMAVTFVDNHDSPERALESPVEWFKPLAYALTIRE 360
DB 301 SKSGGNYDMROIFNGTVVQHPHMAVTFVDNHDSPERALESPVEWFKPLAYALTIRE 360
QY 361 QGYPVFGYDYGIPHTGVPAMKSIDPILAEARQYAYGRONDYLDHNNIIGWTREGNTA 420
DB 361 QGYPVFGYDYGIPHTGVPAMKSIDPILAEARQYAYGRONDYLDHNNIIGWTREGNTA 420
QY 421 HPNSGLATIMSDGAGNKMVGRNKAQOVWTDITGNRAGTVTINADGNGFVSVNGSVS 480
DB 421 HPNSGLATIMSDGAGNKMVGRNKAQOVWTDITGNRAGTVTINADGNGFVSVNGSVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 34
US-09-545-586-8
; Sequence 8, Application US/09545586
; Patent No. 6528298
; GENERAL INFORMATION:
; APPLICANT: Svendsen, Allan
; APPLICANT: Borchert, Torben Vedel
; APPLICANT: Bisgard-Frantzen Henrik
; APPLICANT: Outtrup, Helle
; APPLICANT: Nielsen, Bjarne Ronfeldt
; APPLICANT: Nielsen, Vibeke Skovgaard
; APPLICANT: Hoeck, Lisbeth Hedegaard

; TITLE OF INVENTION: No. 6528298el -Amylase And -Amylase Mutants
 ; FILE REFERENCE: 5276.400-US
 ; CURRENT APPLICATION NUMBER: US/09/545,586
 ; CURRENT FILING DATE: 2000-04-07
 ; PRIOR APPLICATION NUMBER: US/09/290,734
 ; PRIOR FILING DATE: 1999-04-13
 ; NUMBER OF SEQ ID NOS: 35
 ; SOFTWARE: FastSEQ for Windows Version 3.0
 ; SEQ ID NO 8
 ; LENGTH: 485
 ; TYPE: PRT
 ; ORGANISM: Bacillus sp.
 ; US-09-545-586-8

Query Match 90.0%; Score 2437; DB 2; Length 485;
 Best Local Similarity 86.8%; Pred. No. 1.1e-201;
 Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
 QY 1 H H N G T G T M Q Y F E W L P N D G N H N R L R S D A S N L K D G I S A V I P P A W K G S Q N D V G Y G A 60
 D b 1 H H N G T G T M Q Y F E W L P N D G N H N R L R S D A S N L K D G I S A V I P P A W K G S Q N D V G Y G A 60
 QY 61 Y D L Y D L G E F N K G T I R T K Y G T R N Q L Q A V N A L K S G I Q V Y G D V V M N H K G G A D A T E M V R A V 120
 D b 61 Y D L Y D L G E F N K G T I R T K Y G T R N Q L Q A V N A L K S G I Q V Y G D V V M N H K G G A D A T E M V R A V 120
 QY 121 E V N P N N R N Q E V S G E Y T T E A W T K F D P G R G N T H S N F K W R Y H F D G V D W D Q S R K L N R I Y K F 180
 D b 121 E V N P N N R N Q E V S G E Y T T E A W T K F D P G R G N T H S N F K W R Y H F D G V D W D Q S R K L N R I Y K F 180
 QY 181 R G D K G M D W E V D T E N G N Y D I L M Y A D I D M D H P E V V N E L R N G W Y T N T L G D G F R I D A V K H 240
 D b 181 R G D K A W D E V D S E N G N Y D I L M Y A D V D M D H P E V V N E L R R W G E W T N T L N D G F R I D A V K H 240
 QY 241 I K Y S F T R D W L N H V S A T G K M F A V A E F W K N D L G A I E N Y L N K T N N H S V F D V P L H Y N L Y N A 300
 D b 241 I K Y S F T R D W L T H V R N A T G K E M F A V A E F W K N D L G A L E N Y L N K T N N H S V F D V P L H Y N L Y N A 300
 QY 301 S K S G G N Y D M R Q I F N G T V V Q R H P M H A V T F V D N H D S Q P E A L E S F V E E W F K P L A Y A L T I T R E 360
 D b 301 S N S G G N Y D M A K L N G T V V Q R H P M H A V T F V D N H D S Q P E S L E S F V Q E W F K P L A Y A L I T R E 360
 QY 361 Q G Y P S V F Y G D Y G I P T H S V P A M K A K I D P I L E A R Q N F A Y G Q N D Y L D H N I I G W T R E G N T A 420
 D b 361 Q G Y P S V F Y G D Y G I P T H S V P A M K A K I D P I L E A R Q N F A Y G T Q H D Y F D H N I I G W T R E G N T T 420
 QY 421 H P N S G L A T I M S D G A G N K M F V G R N K A G O V W T D I T G N R A G T V T I N A D G W N F S V N G S G S V S 480
 D b 421 H P N S G L A T I M S D G P G G E K M Y V G Q N K A G O V W H D I T G N K P G T V T I N A D G W A N F S V N G S G S V S 480
 QY 481 I W N K 485
 D b 481 I W V K R 485

RESULT 35
 US-09-769-864-2
 ; Sequence 2, Application US/09/769864
 ; Patent No. 6673589
 ; GENERAL INFORMATION:
 ; APPLICANT: Borchert, Torben V.
 ; APPLICANT: Svendsen, Allan
 ; APPLICANT: Andersen, Carsten
 ; APPLICANT: Nielsen, Bjarne
 ; APPLICANT: Nissen, Torben L.
 ; APPLICANT: Kjaerulff, Soren
 ; TITLE OF INVENTION: Alpha-Amylase Mutants
 ; FILE REFERENCE: 5368.200-US
 ; CURRENT APPLICATION NUMBER: US/09/769,864
 ; CURRENT FILING DATE: 2001-01-25
 ; PRIOR APPLICATION NUMBER: 09/183,412
 ; PRIOR FILING DATE: 1998-10-30
 ; NUMBER OF SEQ ID NOS: 58

; SOFTWARE: FastSEQ for Windows Version 3.0
 ; SEQ ID NO 2
 ; LENGTH: 485
 ; TYPE: PRT
 ; ORGANISM: Bacillus sp.
 ; US-09-769-864-2

Query Match 90.0%; Score 2437; DB 2; Length 485;
 Best Local Similarity 86.8%; Pred. No. 1.1e-201;
 Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;
 QY 1 H H N G T G T M Q Y F E W L P N D G N H N R L R S D A S N L K D G I S A V I P P A W K G S Q N D V G Y G A 60
 D b 1 H H N G T G T M Q Y F E W L P N D G N H N R L R S D A S N L K D G I S A V I P P A W K G S Q N D V G Y G A 60
 QY 61 Y D L Y D L G E F N K G T I R T K Y G T R N Q L Q A V N A L K S G I Q V Y G D V V M N H K G G A D A T E M V R A V 120
 D b 61 Y D L Y D L G E F N K G T I R T K Y G T R N Q L Q A V N A L K S G I Q V Y G D V V M N H K G G A D A T E M V R A V 120
 QY 121 E V N P N N R N Q E V S G E Y T T E A W T K F D P G R G N T H S N F K W R Y H F D G V D W D Q S R K L N R I Y K F 180
 D b 121 E V N P N N R N Q E V S G E Y T T E A W T K F D P G R G N T H S N F K W R Y H F D G V D W D Q S R K L N R I Y K F 180
 QY 181 R G D K G M D W E V D T E N G N Y D I L M Y A D I D M D H P E V V N E L R N G W Y T N T L G D G F R I D A V K H 240
 D b 181 R G D K A W D E V D S E N G N Y D I L M Y A D V D M D H P E V V N E L R R W G E W T N T L N D G F R I D A V K H 240
 QY 241 I K Y S F T R D W L N H V S A T G K M F A V A E F W K N D L G A I E N Y L N K T N N H S V F D V P L H Y N L Y N A 300
 D b 241 I K Y S F T R D W L T H V R N A T G K E M F A V A E F W K N D L G A L E N Y L N K T N N H S V F D V P L H Y N L Y N A 300
 QY 301 S K S G G N Y D M R Q I F N G T V V Q R H P M H A V T F V D N H D S Q P E A L E S F V E E W F K P L A Y A L T I T R E 360
 D b 301 S N S G G N Y D M A K L N G T V V Q R H P M H A V T F V D N H D S Q P E S L E S F V Q E W F K P L A Y A L I T R E 360
 QY 361 Q G Y P S V F Y G D Y G I P T H S V P A M K A K I D P I L E A R Q N F A Y G Q N D Y L D H N I I G W T R E G N T A 420
 D b 361 Q G Y P S V F Y G D Y G I P T H S V P A M K A K I D P I L E A R Q N F A Y G T Q H D Y F D H N I I G W T R E G N T T 420
 QY 421 H P N S G L A T I M S D G A G N K M F V G R N K A G O V W T D I T G N R A G T V T I N A D G W N F S V N G S G S V S 480
 D b 421 H P N S G L A T I M S D G P G G E K M Y V G Q N K A G O V W H D I T G N K P G T V T I N A D G W A N F S V N G S G S V S 480
 QY 481 I W N K 485
 D b 481 I W V K R 485

RESULT 36
 US-09-769-864-8
 ; Sequence 8, Application US/09769864
 ; Patent No. 6673589
 ; GENERAL INFORMATION:
 ; APPLICANT: Borchert, Torben V.
 ; APPLICANT: Svendsen, Allan
 ; APPLICANT: Andersen, Carsten
 ; APPLICANT: Nielsen, Bjarne
 ; APPLICANT: Nissen, Torben L.
 ; APPLICANT: Kjaerulff, Soren
 ; TITLE OF INVENTION: Alpha-Amylase Mutants
 ; FILE REFERENCE: 5368.200-US
 ; CURRENT APPLICATION NUMBER: US/09/769,864
 ; CURRENT FILING DATE: 2001-01-25
 ; PRIOR APPLICATION NUMBER: 09/183,412
 ; PRIOR FILING DATE: 1998-10-30
 ; NUMBER OF SEQ ID NOS: 58
 ; SOFTWARE: FastSEQ for Windows Version 3.0
 ; SEQ ID NO 8
 ; LENGTH: 485
 ; TYPE: PRT
 ; ORGANISM: Bacillus sp.
 ; US-09-769-864-8

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

QY 1 HNGTGTGTMQYFEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
DB 1 HNGTGTGTMQYFEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
QY 61 YDYLGEFNQKGTIRTKYGRNQLQAAVNAKNSGIVQYGVVNMHKGADATENVRAV 120
DB 61 YDYLGEFNQKGTIRTKYGRNQLQAAVNAKNSGIVQYGVVNMHKGADATENVRAV 120
QY 121 EVNPNRNOEVSGETTIEATWTKFPPGCGNTHSNFKRWYHFDGVDWDQSRQFNRIYKF 180
DB 121 EVNPNRNOEVSGETTIEATWTKFPPGCGNTHSNFKRWYHFDGVDWDQSRQFNRIYKF 180
QY 181 RGDGKAWDEVDENGNVYLMYADIDMDHPEVNNELRNWGVYNTLGLDGRIDAVKH 240
DB 181 RGDGKAWDEVDENGNVYLMYADIDMDHPEVNNELRNWGVYNTLGLDGRIDAVKH 240
QY 241 IKYSFTRDNLTHVRNATGKEMFAVAFWKNLGLAENLYNKTNNHNSVFDVPLHYNLYNA 300
DB 241 IKYSFTRDNLTHVRNATGKEMFAVAFWKNLGLAENLYNKTNNHNSVFDVPLHYNLYNA 300
QY 301 SKSGGNYDMRQIFNGTIVQHPHMAVTFVNDHDSQPEALESFVEEWFKPLAYALTITRE 360
DB 301 SKSGGNYDMRQIFNGTIVQHPHMAVTFVNDHDSQPEALESFVEEWFKPLAYALTITRE 360
QY 361 QGYPVSFYGYGIPHTHVPAMKSKIDPILAEARQYAYGRONDYLDHNNIIGWTRGNTA 420
DB 361 QGYPVSFYGYGIPHTHVPAMKSKIDPILAEARQYAYGRONDYLDHNNIIGWTRGNTA 420
QY 421 HPNSGLATIMSDGAGGKMWYVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGSGVS 480
DB 421 HPNSGLATIMSDGAGGKMWYVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGSGVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 37
US-10-025-648-2
Sequence 2, Application US/10025648
Patent No. 6867031
GENERAL INFORMATION:
APPLICANT: Bisgaard-Frantzen, Henrik
Svendsen, Allan
Borchert, Torben Vedel
TITLE OF INVENTION: AMYLASE VARIANTS
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSER: No. 6867031 No. 6867031disk of No. 6867031th America, Inc.
STREET: 405 Lexington Avenue, Suite 6400
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10174-6401
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/025,648
FILING DATE: 19-Dec-2001
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/600,656
FILING DATE: 13-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: Lambiris, Elias J.
REGISTRATION NUMBER: 33,728

REFERENCE/DOCKET NUMBER: 4318.204-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212 867 0123
TELEFAX: 212 867 0298
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 485 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-025-648-2

Query Match 90.0%; Score 2437; DB 2; Length 485;
Best Local Similarity 86.8%; Pred. No. 1.1e-201;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

QY 1 HNGTGTGTMQYFEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
DB 1 HNGTGTGTMQYFEWYLPNDGNHNRSLRSDASNLKDKGISAVWIPPAWKASQNDVGYGA 60
QY 61 YDYLGEFNQKGTIRTKYGRNQLQAAVNAKNSGIVQYGVVNMHKGADATENVRAV 120
DB 61 YDYLGEFNQKGTIRTKYGRNQLQAAVNAKNSGIVQYGVVNMHKGADATENVRAV 120
QY 121 EVNPNRNOEVSGETTIEATWTKFPPGCGNTHSNFKRWYHFDGVDWDQSRQFNRIYKF 180
DB 121 EVNPNRNOEVSGETTIEATWTKFPPGCGNTHSNFKRWYHFDGVDWDQSRQFNRIYKF 180
QY 181 RGDGKAWDEVDENGNVYLMYADIDMDHPEVNNELRNWGVYNTLGLDGRIDAVKH 240
DB 181 RGDGKAWDEVDENGNVYLMYADIDMDHPEVNNELRNWGVYNTLGLDGRIDAVKH 240
QY 241 IKYSFTRDNLTHVRNATGKEMFAVAFWKNLGLAENLYNKTNNHNSVFDVPLHYNLYNA 300
DB 241 IKYSFTRDNLTHVRNATGKEMFAVAFWKNLGLAENLYNKTNNHNSVFDVPLHYNLYNA 300
QY 301 SKSGGNYDMRQIFNGTIVQHPHMAVTFVNDHDSQPEALESFVEEWFKPLAYALTITRE 360
DB 301 SKSGGNYDMRQIFNGTIVQHPHMAVTFVNDHDSQPEALESFVEEWFKPLAYALTITRE 360
QY 361 QGYPVSFYGYGIPHTHVPAMKSKIDPILAEARQYAYGRONDYLDHNNIIGWTRGNTA 420
DB 361 QGYPVSFYGYGIPHTHVPAMKSKIDPILAEARQYAYGRONDYLDHNNIIGWTRGNTA 420
QY 421 HPNSGLATIMSDGAGGKMWYVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGSGVS 480
DB 421 HPNSGLATIMSDGAGGKMWYVGRNKAQGVWTDITGNRAGTIVTINADGWNFSVNGSGVS 480
QY 481 IWVWK 485
DB 481 IWVWK 485

RESULT 38
US-09-441-313-2
Sequence 2, Application US/09441313
Patent No. 6887986
GENERAL INFORMATION:
APPLICANT: Svendsen, Allan
APPLICANT: Kjrulff, S ren
APPLICANT: Bisgaard-Frantzen, Henrik
APPLICANT: Andersen, Carsten
TITLE OF INVENTION: -Amylase Variants
FILE REFERENCE: 5709.000-US
CURRENT APPLICATION NUMBER: US/09/441,313
CURRENT FILING DATE: 1999-11-16
EARLIER APPLICATION NUMBER: 09/193,068
EARLIER FILING DATE: 1998-11-16
NUMBER OF SEQ ID NOS: 31
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2

17
2

```

; LENGTH: 485
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-441-313-2

Query Match
Best Local Similarity 90.0%; Score 2437; DB 2; Length 485;
Matches 421; Conservative 36; Mismatches 28; Indels 0; Gaps 0;

QY 1 H H N G T G T M Q Y F E W Y L P N D G N H N R L R S D A S N L K D G I S A V W I P P A W K G A S Q N D V G Y G A 60
Db 1 H H N G T G T M Q Y F E W H L P N D G N H N R L R D D A S N L R G I T A I W I P P A W K G T S Q N D V G Y G A 60

QY 61 Y L Y D L G E F N Q K G T I R T K Y G T R N Q L O A A V N A L K S N G I Q V Y G D V V M N H K G G A D A T E M V R A V 120
Db 61 Y L Y D L G E F N Q K G T V R T K Y G T R S Q L E S A I H A L K N N G V Q V Y G D V V M N H K G G A D A T E N V L A V 120

QY 121 E V N P N R N Q E V S G E Y T I E A W T K F D P F G R G N T H S N F K W R W Y H F D G V D W D Q S R K L N N R I Y K F 180
Db 121 E V N P N R N Q E I S G D Y T I E A W T K F D P F G R G N T Y S D F K W R W Y H F D G V D W D Q S R F Q N R I Y K F 180

QY 181 R D G K G W E V D T E N G N Y D I L M A D I D M D H P E V N E L R N W G V Y T N T L G L D G F R I D A V K H 240
Db 181 R D G K A W D E V D S E N G N Y D I L M A D V D M D H P E V N E L R W G E W Y T N T L N L D G F R I D A V K H 240

QY 241 I K Y S F T R D W L T H V R N A T G K E M F A V A E F W K N D I G A L E N Y L N K T N M N H S V F D V P L H Y N L Y N A 300
Db 241 I K Y S F T R D W L T H V R N A T G K E M F A V A E F W K N D L G A L E N Y L N K T N M N H S V F D V P L H Y N L Y N A 300

QY 301 S K S G N Y D M R Q I F N G T V V O R H P M H A V T F V D N H D S O P E A L E S F V E E W F K P L A Y A L T L T R E 360
Db 301 S N S G N Y D M A K L N G T V V O K H P M E A V T F V D N H D S O P G E S L E S F V Q E W F K P L A Y A L I L T R E 360

QY 361 Q G Y P S V F Y G D Y G I P T H G V P A M K S K I D P I L E A R Q K Y A G R O N D Y L D H N I I G W T R E G N T A 420
Db 361 Q G Y P S V F Y G D Y G I P T H S V P A M K A K I D P I L E A R Q N F A Y G T Q H D Y F D H N I I G W T R E G N T 420

QY 421 H P N S G L A T I M S D G A G N K W M F V G R N K A G O V W T D I T G N R A G T V T I N A D G W N F S V N G S G S V S 480
Db 421 H P N S G L A T I M S D G P G G E K W M Y V G Q N K A G O V W H D I T G N K P G T V T I N A D G W A N F S V N G S G S V S 480

QY 481 I W N K 485
Db 481 I W K R 485

RESULT 40
US-08-446-803-1
; Sequence 1, Application US/08446803
; Patent No. 5824531
; GENERAL INFORMATION:
; APPLICANT: Otttrup, Helle
; APPLICANT: Bisgaard-Frantzen, Henrik
; APPLICANT: Ostergaard, Peter Rahbek
; APPLICANT: Rasmussen, Michael Dolberg
; APPLICANT: Van Der Zee, Pia
; TITLE OF INVENTION: Alkaline Bacillus Amylase
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: No. 5824531o No. 5824531disk of No. 5824531th America
; STREET: 405 Lexington Avenue
; CITY: New York
; STATE: New York
; COUNTRY: USA
; ZIP: 10174
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/446,803
; FILING DATE: 01-June-1995
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Harrington, James J.
; REGISTRATION NUMBER: 38,711
; REFERENCE/DOCKET NUMBER: 4157.204-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212) 867-0123
; TELEFAX: (212) 878-9655
; INFORMATION FOR SEQ ID NO: 1:

```